



A study on adoption of scientific storage practices of food grains

S.H. GOTYAL, S.G. ASKI, M.B. PATIL AND R.H. HANUMANAIKAR

See end of the article for authors' affiliations

Correspondence to :

R.H. HANUMANAIKAR
Department of
Agricultural Extension
Education, College of
Agriculture, UAS (D),
BIJAPUR
(KARNATAKA)
INDIA

ABSTRACT

The study was conducted in Bijapur district of Karnataka state during the year 2008 with the objective to study the adoption level of scientific grain storage practices of food grains by the farmers and also to study the relationship between profile of farmers with their adoption level of scientific food grain storage practices. 160 farmers were randomly selected as respondents for the study and pre-structured schedule was used to collect the data. The results of the study revealed that majority of the farmers had medium level of adoption behaviour of food grains. The variables like education, annual income, mass media exposure and scientific orientation had positive and significant relationship with adoption of scientific storage practices. Regarding improved storage structures, use of fumigation and use of chemical measures for food grain storage, majority of farmers have not adopted these practices. This needs to be tackled by educating through different extension methods and transfer of scientific information.

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INTRODUCTION

Food grains form an important part of the vegetarian Indian diet. Grain production has been steadily increasing due to advancement in production technology, but improper storage results in high losses in grains. The post-harvest losses in India amount to 12 to 16 million metric tons of food grains each year. The monetary value of these losses amounts to more than Rs 50,000 crores per year .

Grain storage plays an important role in preventing losses which are caused mainly due to weevils, beetles, moths and rodents. It is estimated that 60-70% of food grain produced in the country is stored at home level in indigenous storage structures. The percentage of overall food crop production retained at the farm-level and the period of storage is largely a function of farm-size and yield per acre, family-size, consumption pattern, marketing pattern, form of labour payment, credit availability and future crop expectations. The storage methods range from mud structures to modern bins. The containers are made from a variety of locally available materials differing in design, shape, size and functions. The

present investigation was an attempt to ascertain the adoption of scientific grain storage practices by the farmers., Keeping this in view ,the present study was carried out with the specific objectives as follows: to study the profile of respondents, study the adoption of scientific storage practices of grains and to study the relationship between the profile of respondents and adoption of scientific storage practices of grains.

METHODOLOGY

The study was conducted in Bijapur district during the year 2009. In order to determine the adoption behaviour of farmers about scientific storage practices of food grains, the study was conducted purposively selected Talukas of Bijapur district namely, Indi and Sindagi Talukas. From each Taluka eight villages were randomly selected 10 farmers from each village, thus constituting total sample size of 180 respondents.

The data were collected by using prestructured schedule. The data were analysed by using frequency and percentage and correlation.

Key words :

Storage practices,
Pest control
practices,
Adoption level

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Table 1: Profile of respondents		(n=160)	
Sr. No.	Category	Frequency	Percentage
1.	Age		
	Young	12	07.50
	Middle	96	60.00
	Old	52	32.50
2.	Education		
	Illiterat	38	23.75
	Primary School	43	26.87
	Middle School	41	25.63
	High School	33	20.62
	College and above	05	03.13
3.	Land holding		
	Marginal	15	09.37
	Small	55	34.38
	Medium	64	40.00
	Big	26	16.26
4.	Annual income (Rs)		
	Upto Rs.20,000	12	07.50
	20,001 to 40,000	64	40.00
	40,001 to 60,000	28	17.50
	60,001 to 80,000	18	11.25
	80,000 & above	38	23.75
5.	Socio-economic status		
	Low	26	16.25
	Medium	97	60.62
	High	37	23.13
6.	Mass media exposure		
	Low	21	13.12
	Medium	106	66.25
	High	33	20.63
7.	Scientific orientation		
	Low	23	14.37
	Medium	113	70.63
	High	24	15.00

RESULTS AND DISCUSSION

The birds eye view of Table 1 reveals that majority of the respondents (60.00) belonged to middle age group followed by old age (32.50%). More number of respondents (26.87%) had studied upto Primary School and only 3.13 per cent of respondents had College level education. Forty per cent of the respondents possessed medium land holding and had annual income of Rs.20,001 to 40,000. More than 60 per cent of respondents had medium level of socio-economic status, mass media exposure and scientific orientation. Similar findings were reported by Rasekar (1998).

Practice wise adoption of scientific food grains storage by the respondents:

The data presented in Table 2 reveal that cent per cent of the respondents adopted the practice of drying the food grains before storage in order to reduce the moisture content in the food grains to avoid the attack of pests in storage. This might be due to that there is no cost involved, and it is good practice and every farmer uses to practice before storage of the food grains and they also are aware about reducing moisture in food grains before storage which avoids major pests in storage thereby prolongs the storage period without affecting the quality of grains. Eighty nine per cent of the farmers were taken care while staking the gunny bags in storage. However, the adoption of other storage practices was found to be meagre among the majority of respondents such as fumigation, use of scientific grain storage structures, use of oil for controlling pests of pulses in storage and chemical control measures adopted in storage. The reason for this might be due to less knowledge about these practices and also fumigation may not be possible in the storage conditions of farmers as they store the grains in their living house. As, it is highly poisonous, so it is difficult to practice.

Table 2: Practice wise adoption of scientific food grain storage by the respondents		(n=160)			
Sr. No	Storage practice	Adoption		Non-Adoption	
		No.	%	No.	%
1.	Drying of food grains before storage	160	100.00	00	00.00
2.	Care taking while stacking the bag	143	89.37	17	10.63
3.	Precautionary measures while reusing pre-used gunny bags	47	29.37	113	70.63
4.	Use of scientific grain storage structures	09	5.62	151	94.38
5.	Methods adopted to control rofents	35	21.87	125	78.13
6.	Chemical control measures adopted to control the storage pests	29	18.12	131	81.88
7.	Fumigation	05	3.12	155	96.88
8.	Use of oil for controlling pests of pulses in storage	08	5.00	152	95.00

Similar results were observed by Rasekar (1998).

Categorisation of respondents according to their adoption level of scientific storage pest control practices:

The data presented in Table 3 reveal that majority of respondents were under medium adoption category (66.87%). A very meagre (13.13%) of respondents belonged to high adoption category. This might be due to the fact the practices like sun drying before storage, maintaining less moisture in the grain were in adoption by farmers since long time and they were aware of the benefits of these practices. Similar observations were made by Rasekar (1998).

Table 3: Categorization of respondents according to their adoption level of scientific storage pests control (n=160)

Sr. No.	Adoption category	Frequency	Percentage
1.	Low	32	20.00
2.	Medium	107	66.87
3.	High	21	13.13

Correlation co-efficient between profile of respondents and their adoption level:

The critical analysis of Table 4 indicates that the variables like education, annual income, mass media

Table 4: Correlation co-efficient between profile of respondents and their adoption level (n=160)

Sr. No.	Profile	Correlation co-efficient (γ)
1.	Age	0.0931 NS
2.	Education	0.4813 **
3.	Land holding	0.0316 NS
4.	Annual income	0.4973 **
5.	Socio-economic status	0.0872 NS
6.	Mass media participation	0.5422 **
7.	Scientific orientation	0.4932 **

** Significant at 0.01 level of probability
NS = Non-significant

participation, scientific orientation had poor and significant with adoption behaviour of the farmers. However, the other variables viz., age, land holding, socio-economic status did not show any significant association. The season

might be a significant correlation of education, annual income and mass media participation with adoption behaviour might be that education leads to seek more information from various mass media exposure and more mass media exposure leads towards gaining more knowledge about scientific grain storage practice knowledge which leads towards more adoption. Individual with better socio-economic status was offered to get exposed themselves towards seeking more information leading to adopt more and more practices. Similar results were also observed by Kulkarni *et al.* (1990) and Rasekar (1998).

Conclusion:

From the study it is concluded that majority of the farmers not adopted the scientific grain storage practices like use of scientific grain storage structures, chemical control measures to control storage pests and also use of oil for control of storage pest of pulses. This can be tackled by educating farmers by conducting trainings, demonstrations, and supply of chemicals at subsidized rates and constructing of “pukha kote” scientific grain storage structures in villages and transfer of scientific grain storage information to needy farmers.

Authors’ affiliations:

S.G. ASKI AND M.B. PATIL, Department of Agricultural Extension, College of Agriculture, UAS (D), BIJAPUR (KARNATAKA) INDIA

S.H. GOTYAL, Department of Agricultural Extension, College of Agriculture, M.A.R.S., BIJAPUR (KARNATAKA) INDIA

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